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Confirmation No. 1967

Sender: Dexter Chin
Horizon IP Pte Ltd
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Subject Matter: US Patent Application Number: 10/707,968
Renewed Petition Under 37 CFR 1.182

Total Pages (including cover sheet): 8 pages

Attachments:

- 1) Certificate of Transmission
- 2) Transmittal Form
- 3) Renewed Petition Under 37CFR 1.182
- 4) Copy of Application Data Sheet – Exhibit A
- 5) Copy of Page 1 of Specification (Electronic Version) – Exhibit B

PTO/SB/97 (05-03)

Approved for use through 04/30/2003. OMB 0651-0031

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- 1) Transmittal Form
- 2) Renewed Petition Under 37CFR 1.182
- 3) Copy of Application Data Sheet – Exhibit A
- 4) Copy of Page 1 of Specification (Electronic Version) – Exhibit B

This collection of information is required by 37 CFR 1.8. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.8 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTO/SB/21 (09-04)

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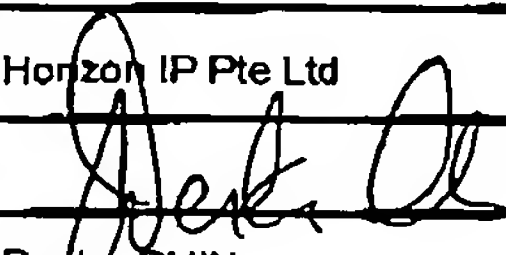
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/707,988	
	Filing Date	January 29, 2004	
	First Named Inventor	Dominique MANGELINCK	
	Art Unit	2811	
	Examiner Name	Not Assigned Yet	
Total Number of Pages in This Submission	8	Attorney Docket Number	ASTAP2004-01

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input checked="" type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	
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<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	Remarks 1) Renewed Petition Under 37CFR 1.182 2) Copy of Application Data Sheet - Exhibit A 3) Copy of Page 1 of Specification (Electronic Version) - Exhibit B	

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Horizon IP Pte Ltd		
Signature			
Printed name	Dexter CHIN		
Date	November 12, 2004	Reg. No.	38,842

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Signature			
Typed or printed name	Wendy LIM	Date	November 12, 2004

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Appl. No.: 10/707,968
Renewed Petition under 37 CFR 1.182, dated November 12, 2004
Response to Decision of September 21, 2004

PATENT**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No. : 10/707,968 Confirmation No. : 1967
Applicant : Dominique MANGELINCK
et al.
Filed : January 29, 2004
TC / A.U. : 2811
Examiner : Not Assigned Yet
Docket No. : ASTAP2004-01
Customer No. : 031366
Title : Gate Electrodes and the Formation Thereof

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Wendy LIM

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Commissioner for Patents
Office of PCT Legal Administration
P.O. Box 1450
Alexandria, Virginia 22313-1450

Renewed Petition Under 37 CFR 1.182

Sir:

In response to the Decision mailed on September 21, 2004 (Decision) in the above-identified application, Applicants respectfully request reconsideration on the merits for the renewed petition under 37 CFR § 1.182 filed on September 16, 2004.

Appl. No.: 10/707,968

Renewed Petition under 37 CFR 1.182, dated November 12, 2004

Response to Decision of September 21, 2004

In the Decision, the Examiner stated that the Office would only grant petitions for the requested conversion upon showing by Applicants of sufficient cause (e.g., loss of patent rights) where no other remedy is available. The Examiner stated that Applicants have the ability to make the current 35 U.S.C. 111(a) application a continuation of the international application, which would cause no loss of patent rights. Since such remedy is available to Applicants, the renewed petition was not granted.

Applicants respectfully disagree. Such remedy is not available to Applicants. To obtain the benefit under 35 U.S.C. 120 and 365(c) of a prior international application, the continuing application must include a specific reference to the prior international application, either in the application data sheet or in the first sentence of the specification. See MPEP 1895.01(A). The specific reference must identify the parent international application by its international application number, international filing date and the relationship of the applications. See 37 CFR 1.78(a)(2)(i) and MPEP §201.11. The required reference must be submitted within the time period provided by 37 CFR 1.78(a)(5)(ii), which is within four months from the actual filing date of the present application. This time period is not extendable.

Although the reference contained in the Application Data Sheet (*see* Exhibit A, element a) and the first sentence of the originally filed specification (*see* Exhibit B, element b) identified the parent international application by its international application number and filing date, it does not state that the present application is a continuation of the international application. Since the time period for providing the required reference expired on May 29, 2004, Applicants do not have the opportunity to amend the reference to make the current 35 U.S.C. 111(a) application a continuation of the international application.

Appl. No.: 10/707,968

Renewed Petition under 37 CFR 1.182, dated November 12, 2004

Response to Decision of September 21, 2004

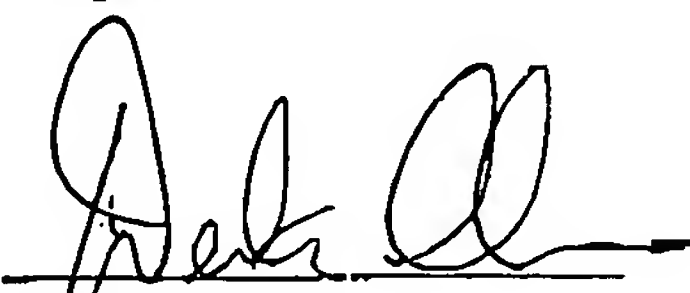
Applicants therefore submit that no other remedy is available in the present case. Failure to grant this renewed petition would cause the Application to lose its priority date, resulting in Applicants' subsequent loss of patent rights. Therefore, sufficient cause is shown and no other remedy is available.

In view of the evidence presented, Applicants respectfully request that this renewed petition under 37 CFR 1.182 be granted, recognizing that US Application No. 10/707,968 is a national stage of PCT Application No. PCT/SG02/00174 under 35 U.S.C. §371. Issuance of a corrected formal filing receipt is respectfully requested and most appreciated.

Although Applicants do not believe that any fees are due, the Commissioner is nevertheless authorized to charge any additional fees that may be required, or credit any overpayment to Deposit Account No. 50-2388.

Dated: November 12, 2004

Respectfully submitted,


Dexter CHIN
Attorney for Applicants
Reg. No. 38,842

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Fax: (65) 6746 8263

US-Request

Exhibit A

APPLICATION DATA SHEET

Electronic Version v14

Stylesheet Version v14.0

Title of Invention	Gate Electrodes and the Formation Thereof		
Application Type: regular, utility Attorney Docket Number: ASTAP2004-01			
Correspondence address: Customer Number: 031366 *031366*			
Continuing Data: This is a National Stage of SG application number PCT/SG02/00174, filed 2002-07-31 , now Published.			
Priority Data: Doc.No: 0104614-3; Country - SG; Date: 2001-07-31 us-priority-claimed			
Inventors Information: Inventor 1: Applicant Authority Type: Inventor Citizenship: FR Name prefix: Mr. Given Name: Dominique Family Name: Mangelinck City of Residence: Marseille Country of Residence: FR Address-1 of Mailing Address: L2MP, UMR CNRS 6137, Case 151, Address-2 of Mailing Address: Faculte de St Jerome, Marseille Cedex 20, France 13397 City of Mailing Address: Marseille State of Mailing Address: Postal Code of Mailing Address: 13397 Country of Mailing Address: FR Phone: Fax:			

element
a

Exhibit B

SPECIFICATION

[Electronic Version 1.2.8]

GATE ELECTRODES AND THE FORMATION THEREOF

element
b

Cross Reference to Related Applications

This application is the National Stage of International Application No. PCT/SG02/00174, filed July 31, 2002, and which was published in English under PCT Article 21(2) as WO 03/012876 A1 on February 13, 2003. The International application claims priority to Singaporean Application No. 200104614-3, filed July 31, 2001..

Background of Invention

[0001] Referring to Figure 1 of the accompanying drawings, a complementary metal oxide semiconductor (CMOS) transistor comprises an n channel MOS (NMOS) and a p channel MOS (PMOS). Historically, a polycrystalline n⁺-Si gate is used as a gate electrode both in NMOS and PMOS transistors. For PMOS transistors additional boron implantation into the channel region of the Si substrate is needed to control the threshold voltage because of the low work function of n⁺-Si. This can produce short channel effects and large sub-threshold currents and thus the PMOS transistor is less scaleable than the NMOS transistor. In order to solve this problem, a dual gate configuration where polycrystalline n⁺-Si and p⁺-Si are used as the gate for the NMOS and PMOS transistors, respectively, has been suggested. However, the dual gate CMOS has drawbacks, most notably boron penetration (for PMOS) through the gate oxide and the poly-depletion effect. Instead of using a dual gate, a material with a work function close to the value of the middle of the bandgap of silicon (4.61 eV), can be used for both NMOS and PMOS transistors. A material with such a work function is called a mid-gap material and the process utilising this material for a gate electrode is known as mid-gap CMOS technology.

[0002] In addition, the contact surface of the gate electrode is actually provided by a silicide layer (TiSi₂, CoSi₂, PtSi₂, PtSi or NiSi) on top of the polycrystalline Si gate (e.g. n⁺-Si) in current CMOS fabrication processes. At relatively high temperatures (e.g. 600°C), the silicide film is usually degraded by two phenomena: inversion and agglomeration. Inversion is due to the grain growth of Si during the formation of